REMARKS (RESPONSE TO OFFICE ACTION)

The Office Action required restriction from among the following Groups under 35 U.S.C. §§121 and 372:

Group I: Claims 1-12, drawn to chimeric antibody conjugates;

Group II: Claims 13-32, drawn to recombinant polynucleotide molecules encoding a non-human Vh region, a non-human V1 region, a flexible linker and a heterologous sequence encoding a C_H domain or epitope thereof;

Group III: Claims 33-38, drawn to a method of detecting an antibody in a biological sample comprising the use of a chimeric antibody conjugate;

Group IV: Claims 39-59, drawn to a bifunctional molecule for use in labeling an antibody;

Group V: Claims 60-64, drawn to an isolated polynucleotide encoding a bifunctional molecule;

Group VI: Claims 65-83, drawn to a complex formed between an antibody or biologically active fragment thereof and a bifunctional molecule;

Group VII: Claims 84-89, drawn to a method of detecting an antibody in a biological sample comprising the use of a complex formed between an antibody or biologically active fragment thereof and a bifunctional molecule.

The Office Action also mandated an election of species at page 3.

Applicants elect, with traverse, Group VI and the species Japanese encephalitis virus, with traverse. It is understood that the election of species is only for search and examination purposes, and that it can be expanded to ultimately encompass generic claims, such as claim 1.

It is respectfully requested, for the following reasons, that the restriction and election of species requirements be reconsidered and withdrawn and the Examiner conduct a complete search, examination and prosecution of the subject matter claimed in Groups I-VII—as they all relate to a single invention on the basis of the following traverse:

The Office Action contends that the inventions are distinct because the inventions lack a Unity of Invention. The Examiner alleges that the present invention lacks novelty in view of Better, et al. (J. of Biological Chemistry, 1995, vol. 270, pp.14951-14957).

However, it is respectfully submitted that the Examiner's allegation is misplaced. Better, et al. does not render any of Applicants claims obvious.

Under 35 U.S.C. § 121, if there are two or more independent and distinct inventions in one application, the application may be restricted to one of the inventions. Inventions are "independent" if there are no distinct relationship between two or more subjects disclosed (MPEP 802.01). The term "distinct" means that "two or more subjects as disclosed are related ... but are capable of separate manufacture, use or sale as claimed, AND ARE PATENTABLE (novel and unobvious) OVER EACH OTHER." (MPEP 802.01, July 1988) (emphasis in original). However, even with patentably distinct inventions, restriction is not required unless one of the following is present (MPEP 808.02):

1. Separate classification;
2. Separate status in the art; or
3. Different field of search.

Under Patent Office examining procedures, "[i]f the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims to distinct or independent inventions" (MPEP 803) (emphasis added).

The Groups delineated by the Office Action fail to define methods and compositions warranting separate examination and search. All of the claims submitted represent a web of knowledge and continuity of effort that merits examination in a single application. Moreover, to search or examine these Groups together does not pose a serious burden on the Examiner. Rather, the 7-way restriction requirement imposes a severe hardship on both the USPTO and Applicants; namely, overlapping searches and examinations by the USPTO in 7 application, and the need to refile this application six more time, for a total of 7 applications. The cost and expense of the restriction requirement is unduly burdensome.

Moreover, the present invention relates to bifunctional molecules or complexes that are useful as positive control reagents in immunological diagnostic tests. The invention is based upon the finding that only small regions of the human Fc fragment (i.e. individual C_H domains) are needed to illicit epitopic recognition by class-specific anti-human antisera. In other words, these individual C_H domains work effectively as recognition sites for anti-human antisera.

Group IV, claims 39-59, relates to a bifunctional molecule that can be used to label mouse antibodies, for example, with human C_H domains. This bifunctional molecule comprises a C_H domain for one species (preferably human) linked to a molecule (such as *Staphylococcus aureus* protein A) that is able to bind to an antibody from a second species (preferably mouse). Once the bifunctional molecule is bound to the antibody, it gives rise to a complex which has the properties of a specific positive antibody control: a ligand binding site with specificity for an antigen derived from an infectious organism and an epitopic domain that is recognized by antisera. This complex is claimed in Group VI, claims 65-83, and the use of this complex as a positive control in diagnostic tests is claimed in Group VII, claims 84-89.

Thus, Groups IV, VI and VII are clearly related to each other, e.g., as product and uses thereof. Groups IV, VI and VII form a single general inventive concept under the PCT Rules and Examples; and, would be subject to rejoinder under MPEP §§821.04.

Note for instance, Example 1 of Annex B Part 2 of the PCT Administrative Instructions (Appendix A1 of the MPEP pp. AI-39) provides:

> Claim 1: A method of manufacturing chemical substance X
>
> Claim 2: Chemical substance X
>
> Claim 3: The use of substance X as an insecticide
>
> Unity exists between claims 1, 2 and 3. The special technical feature common to all the claims is substance X.

Similarly, the Group IV subject matter is the special technical feature common to all the claims of Groups IV, VI and VII.

Better, et al. relates to fusion proteins comprising cell targeting domains and cytotoxic proteins. The Better, et al. chimeric proteins possess gelonin (a plant ribosome inactivating

protein) domains and different scFv and Fab versions of a humanized anti-T-cell antibody. Better, et al. constructs have two Fd portions of the antibody linked by the cysteine-rich hinge region present in the first nine amino acids of the C_H2 domain *of the same antibody*. This small region of the C_H2 domain is present solely as a means to link two Fd fragments via disulphide bridges to create an F(ab')2 fragment, with gelonin linked via the N-terminus of the light chain. Better, et al. does not disclose or suggest a chimeric scFv or Fab with a constant domain (from the Fc portion of an antibody) from one species linked to the scFv/Fab from another species. Accordingly, in contrast to the Examiner's comments, Better et al. does not teach or suggest a chimeric antibody conjugate as claimed in present claim 1. Clearly, Better, et al. does not disclose or suggest the bifunctional molecule or complex claimed in claims 39-89.

Accordingly, the claims of Groups IV, VI and VII clearly relate to a single invention.

Thus, the allegation that Groups I-VII cover divergent subject matter, it is respectfully submitted, overlooks the more prevalent commonalties of the technology. Examination of any one of Groups I-VII compels consideration of the patentability of each of the other Groups. The Examiner's assertion that in view of Better, et al. Groups I-VII are anticipated or obvious, it is respectfully submitted is erroneous; and, consideration of these Groups is not burdensome, as they all relate to a single invention.

Furthermore, as alluded to earlier, enforcing the present restriction requirement would result in inefficiencies and unnecessary expenditures by both the Applicants and the PTO, as well as extreme prejudice to Applicants (particularly in view of GATT, a shortened patent term may result in any divisional or continuing applications filed). Restriction has not been shown to be proper, especially since the requisite showings of serious burden and lack of unity have not been made in the Office Action and there are relationships between the claims of all the Groups. Indeed, the search and examination of each Group is likely to be co-extensive and, in any event, would involve such interrelated art that the search and examination of the entire application can be made without undue burden on the Examiner. All of the preceding, therefore, mitigate against restriction.

Accordingly, it is respectfully requested that the restriction requirement be reconsidered and withdrawn, in view of there clearly being no serious or undue burden in searching and examining Groups I-VII, and there being unity of invention among Groups I-VII.

If the Requirement for Restriction is not reconsidered and withdrawn it is respectfully requested that consideration be especially given to regrouping the claims such that prosecution of the claims comprising Groups IV, VI and VII—namely claims 39-59 and 65-89 – be in this application.

In view of the foregoing, reconsideration and withdrawal or a reconstituting of the Requirement for Restriction is respectfully requested.

If any fee is determined to be due for consideration and entry of this response, the Assistant Commissioner is authorized to charge the fee therefor or credit any overpayment to Deposit Account No. 50-0320

Early and favorable examination on the merits of all of the claimed subject matter or at least of Groups IV, VI and VII, is earnestly solicited.

Respectfully submitted,

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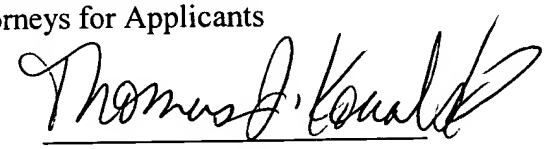
By: 

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